

CLAIMS

What is claimed is:

Sub A1

1. In a computer system comprising a plurality of sites, a method of replicating data that is stored in one or more sets of formatted data at a first site of said plurality of sites, said method comprising the computer-implemented steps of:

creating a mapping between subsets of data within said one or more sets of formatted data and one or more object groups;

specifying one or more replication sites for each of said one or more object groups;

for each of said one or more object groups, creating at the one or more replication sites for said object group a replica of each subset of data that is mapped to said object group;

detecting a data modification to a subset of data; and

if said subset of data has been mapped to an object group of said one or more object groups, then propagating said data modification to the one or more replication sites of said object group.

2. The method of claim 1 wherein:

said one or more sets of formatted data includes a first set of formatted data and a second set of formatted data; and

the step of creating a mapping includes the steps of

mapping a first subset of data to a first object group, said first subset residing in said first set of formatted data, and

7 mapping a second subset of data to said first object group, said second
8 subset of data residing in said second set of formatted data.

1 3. The method of claim 1 wherein said step of creating a mapping includes:
2 maintaining an object groups table, and
3 maintaining a replicated objects table.

1 4. The method of claim 3 further comprising the steps of:
2 receiving a first input that identifies an object group;
3 adding an object group record to said object groups table, said object group
4 record identifying said object group;
5 receiving a second input that identifies a subset of data; and
6 adding a replicated object record to said replicated objects table, said replicated
7 object record identifying said subset of data.

Sub A2
1 5. The method of claim 1 further comprising the step of generating a trigger for
2 one of said one or more subsets of data, said trigger responsive to data modifications
3 to the subset of data.

7
1 6. The method of claim 1 further comprising the steps of:
2 designating a first replication site as a master site to receive propagated data
3 modifications corresponding to replicas stored at said first replication
4 site immediately upon detection of said data modifications or at
5 predetermined time-based intervals; and

6 designating a second replication site as a snapshot site to receive propagated
7 data modifications corresponding to replicas stored at said second
8 replication site, said propagated data modifications sent from said
9 master site at predetermined time-based intervals or on demand.

Sub A3

1 7. In a computer system comprising a plurality of sites, a method for specifying
2 how data is replicated in the computer system, said method comprising the computer-
3 implemented steps of:

4 mapping a subset of data that resides in a set of formatted data to an object
5 group;
6 mapping said object group to one or more sites of said plurality of sites; and
7 creating replicas of said subset of data at each of said one or more sites.

1 8. The method of claim 7 further comprising the step of:
2 mapping at least two subsets of data to said object group, the first of said at
3 least two subsets of data corresponding to a first group of formatted
4 data and the second of said at least two subsets of data corresponding
5 to a second group of formatted data.

1 9. The method of claim 7 further comprising the step of maintaining a set of
2 destinations to which said subset of data is replicated.

1 10. The method of claim 7 wherein said step of mapping a subset of data that
2 resides in a set of formatted data to an object group includes:

5 mapping a first subset of data to a first object group, said first subset
6 residing in said first set of formatted data; and
7 mapping a second subset of data to said first object group, said second subset
8 of data residing in said second set of formatted data.

10. 13. The machine-readable medium of claim 9 wherein said step of creating a
2 mapping includes:

3 maintaining an object groups table, and
4 maintaining a replicated objects table.

12. 14. The machine-readable medium of claim 8 further comprising the steps of:
2 designating a first replication site as a master site to receive propagated data
3 modifications corresponding to replicas stored at said first replication
4 site immediately upon detection of said data modifications; and
5 designating a second replication site as a snapshot site to receive propagated
6 data modifications corresponding to replicas stored at said second
7 replication site, said propagated data modifications sent from said
8 master site at predetermined time-based intervals.

Add A5

maintaining an object groups table, and
maintaining a replicated objects table.

Sub A4

11. A machine-readable medium that has stored thereon sequences of instructions, the sequences of instructions including instructions which, when executed by a processor, cause said processor to perform the steps of:

- creating a mapping between subsets of data and one or more object groups, said subsets of data stored in one or more sets of formatted data at a first site of a plurality of sites;
- specifying one or more replication sites for each of said one or more object groups;
- for each of said one or more object groups, creating at the one or more replication sites for said object group a replica of each subset of data that is mapped to said object group;
- detecting a data modification to a subset of data; and
- if said subset of data has been mapped to an object group of said one or more object groups, then propagating said data modification to the one or more replication sites of said object group.

12. The machine-readable medium of claim 11 wherein:

- said one or more sets of formatted data includes a first set of formatted data and a second set of formatted data;
- the step of creating a mapping includes the steps of